

# TEXAS DEPARTMENT OF INSURANCE

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## PRODUCT EVALUATION EC-19

Effective February 1, 2004  
Revised March 1, 2004

*The following product has been evaluated for compliance with the wind loads specified in the **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation 3 years after the effective date.*

*This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.*

*This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code and the Texas Engineering Practice Act.*

**Degussa Wall System's Exterior Insulation and Finish (EIF) System**, as manufactured by

**Degussa Wall Systems, Inc.**  
**3550 St. Johns Bluff Road, South**  
**Jacksonville, Florida 32224-2614**  
**Telephone No. (904) 996-6000**

will be accepted for use in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

## PRODUCT DESCRIPTION

The following types of wall systems have been accepted for use: Senturion (Senerflex) System I, Senturion (Senerflex) System II, Senturion (Senerflex) System III, QRSystems, Secondary Barrier-QRsystem, and QR-CDsystem.

### General:

Senergy Wall Systems are exterior wall finishing systems consisting of four basic components: (1) insulation board, (2) adhesive/base coat, (3) reinforcing mesh, and (4) finish coat. The wall systems are field installed to various substrates including wood structural panels. The QRsystem, Secondary Barrier-QRsystem, QR-CDsystem, and Senturion (Senerflex) Wall Systems must be applied to solid sheathing.

### **Senturion (Senerflex), QRsystem, Secondary Barrier-QRsystem, and QR-CDsystem Wall Systems:**

The insulation board for the Senturion (Senerflex) System consists of channeled and non-channeled expanded polystyrene (EPS) with a nominal density of 1 pcf and complies with ASTM C 578. It is supplied in 2 feet by 4 feet by 1 ½ inch and 1 inch thick sheets. The insulation board is mechanically attached to the sheathing utilizing eight (8) Wind-Devil 2 plates and 2 ½ inches long type W screws. The minimum thickness for channeled EPS is 1 ½ inches.

The insulation board for the Qrsystem, Secondary Barrier-QRsystem, and QR-CDsystem shall be one of the following: Thermax Quik-R polyisocyanurate insulation board by Celotex Corporation or Atlas Stucco-Shield II by Atlas Energy Products. The insulation board shall be a minimum of 1 inch thick and shall have a nominal density of 2 pcf. This insulation board shall be installed with mechanical fasteners.

## **INSTALLATION INSTRUCTIONS**

### **General Installation Requirements:**

All fasteners shall be corrosion resistant.

The Senturion (Senerflex), QRsystem, Secondary Barrier-QRsystem, and QR-CDsystem wall systems shall not be used for wall bracing.

The sheathing used when installing the Senturion (Senerflex), QRsystem, Secondary Barrier-QRsystem, and QR-CDsystem wall systems shall be a minimum  $\frac{7}{16}$  inch Exposure 1 structural wood panels.

### **Senturion I (Senerflex Secondary Barrier System)**

**Design pressure:** -54.0 psf

#### **Installation:**

The wall framing shall consist of a minimum 2x4 Spruce Pine Fir (SPF) stud grade lumber at 16 inches on center with  $\frac{7}{16}$  inch thick Exposure 1 Oriented Strand Board (OSB) substrate. EPS insulation board, 1 inch thick, 1.0 pcf, is mechanically attached to the sheathing utilizing eight (8) Wind Devil 2 plates and 2  $\frac{1}{2}$  inches long type W screws per 2x4-insulation board. The insulation board is to be attached only to solid substrates utilizing only mechanical fasteners.

Using a stainless steel trowel, the base coat is applied to the surface of the board to a nominal thickness of  $\frac{1}{16}$  inch. The reinforcing fabric is placed against the wet base coat and by trowelling from the center to the edges embeds the mesh into the coating. The mesh is continuous at the corners and lapped 2-  $\frac{1}{2}$  inches at the edges. The base coat must be allowed to dry and harden before applying finish coat, approximately 8 to 10 hours.

The finish coat is applied over the reinforced base coat with a stainless steel trowel to nominal thickness of  $\frac{1}{16}$  inch.

### **Senturion II (Senerflex Channel Foam System)**

**Design pressure:** -42.1 psf

**Installation:**

The wall framing shall consist of a minimum 2x4 Spruce Pine Fir (SPF) stud grade lumber at 16 inches on center with  $\frac{7}{16}$  inch thick Exposure 1 Oriented Strand Board (OSB) substrate. Channeled EPS insulation board,  $1\frac{1}{2}$  inch thick, 1.0 pcf, is mechanically attached to the sheathing utilizing eight (8) Wind Devil 2 plates and  $2\frac{1}{2}$  inches long type W screws per 2x4-insulation board. The insulation board is to be attached only to solid substrates and utilizing only mechanical fasteners.

Using a stainless steel trowel, the base coat is applied to the surface of the board to a nominal thickness of  $\frac{1}{16}$  inch. The reinforcing fabric is placed against the wet base coat and by trowelling from the center to the edges embed the mesh into the coating. The mesh is continuous at the corners and lapped  $2-\frac{1}{2}$  inches at the edges. The base coat must be allowed to dry and harden before applying finish coat, approximately 8 to 10 hours.

The finish coat is applied over the reinforced base coat with a stainless steel trowel to nominal thickness of  $\frac{1}{16}$

**Senturion III (Senerflex CDsystem)**

**Design pressure:** -50.5 psf

**Installation:**

The wall framing shall consist of a minimum 2x4 Spruce Pine Fir (SPF) stud grade lumber at 16 inches on center with  $\frac{7}{16}$  inch thick exposure 1 Oriented Strand Board (OSB) substrate. EPS insulation board, 1 inch thick, 1.0 pcf, is mechanically attached to the sheathing utilizing eight (8) Wind Devil 2 plates and  $2\frac{1}{2}$  inches long type W screws per 2x4-insulation board. The insulation board is to be attached only to solid substrates utilizing only mechanical fasteners.

Using a stainless steel trowel, the base coat is applied to the surface of the board to a nominal thickness of  $\frac{1}{16}$  inch. The reinforcing fabric is placed against the wet base coat and by trowelling from the center to the edges embed the mesh into the coating. The mesh is continuous at the corners and lapped  $2-\frac{1}{2}$  inches at the edges. The base coat must be allowed to dry and harden before applying finish coat, approximately 8 to 10 hours.

The finish coat is applied over the reinforced base coat with a stainless steel trowel to nominal thickness of  $\frac{1}{16}$

**QRsystem, Secondary Barrier-QRsystem, and QR-CDsystem**

**QRsystem Assembly**

**Design pressure:** +76psf, -67 psf

**Installation:**

Each wall panel frame is 4 feet by 8 feet. Wall framing shall be minimum 2x4 stud Douglas Fir-Larch lumber. The studs shall be spaced a maximum of 16 inches on center and oriented parallel to 8' 0" dimension. Minimum 1-inch thick Thermax Quik-R insulation board is mechanically fastened to the wall studs with 8d galvanized common nails and Windlock ULP 302 plates spaced 12 inches on center vertically along the studs; horizontal fastener spacing is 16 inches on center.

Prepare the Senerflex Base Coat mixture by mixing one part Senerflex Base Coat with one part Portland Cement. Using a stainless steel trowel, apply the mixed Senerflex Base Coat to the entire surface of the insulation to a minimum thickness of  $\frac{1}{16}$  inch. Immediately place the Flexguard Reinforcing Mesh against the wet base coat and fully embed the mesh into the coating by trowelling from the center to the edges. The mesh shall be continuous at the corners, and shall be lapped a minimum of  $2\frac{1}{2}$  inches at the mesh edges. Allow the base coating with embedded mesh to dry hard (normally 8 to 10 hours) before applying the Finish Coat.

After the reinforced base coat is dry, apply a uniform thickness of Senergy Finish Coat with a clean stainless steel trowel.

**Secondary Barrier-QRsystem and QR-CDsystem:**

**Design pressure:** +76psf, -67 psf

**Installation:**

Each wall panel frame is 4 feet by 8 feet. Wall framing shall be minimum 2x4 stud Douglas Fir-Larch lumber. The studs shall be spaced a maximum of 16 inches on center and oriented parallel to 8' 0" dimension. Minimum 1-inch thick Thermax Quik-R insulation board is mechanically fastened to the wall studs with 8d galvanized common nails and Windlock ULP 302 plates spaced 12 inches on center vertically along the studs; horizontal fastener spacing is 16 inches on center.

The Thermax Quik-R insulation boards are applied to solid substrates with mechanical fasteners only. The insulation boards are installed in a running board pattern. Mechanical fasteners are installed as recommended for substrates and wind assembly. Senerprime/Base Coat or NCII Base is mixed and applied to insulation board at a nominal thickness of  $\frac{1}{16}$  inch. The reinforcing mesh is embedded into base coat. Reinforcing mesh may be applied in 9-inch wide strips to insulation board joints or may be installed over the entire surface of the insulation boards. The base coat must be dry and hard before applying finish coat, approximately 8 to 10 hours.

The finish coat is applied over the reinforced base coat with a stainless steel trowel to a nominal thickness of  $\frac{1}{16}$  inch.

**Note:** The manufacturer's installation instructions shall be available on the job site during installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC) and the International Building Code (IBC).